

Does Mothers and Babies Work for You? Variations in Intervention Effects Across Sub Groups

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Mothers and Babies Program

- The Mothers and Babies Program (MB) uses cognitive-behavioral therapy (CBT) approaches to promote a healthy mood and bonding with one's baby, and provide strategies for pregnant women and new moms to cope with stress in their lives.¹
- The content of MB is tailored to specific needs and issues related to the pregnancy and the postpartum periods.
- There are two evidence-based intervention modalities:
 - 1-on-1 (12 sessions, 15-20 minutes/each)
 - Group (6 sessions, 60-120 minutes/each)



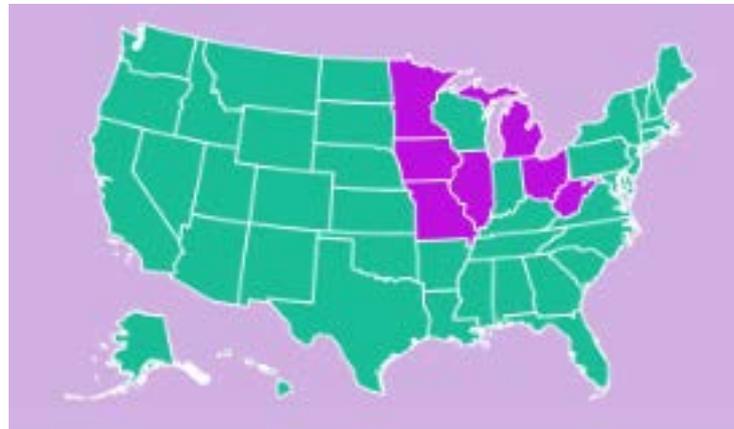
Study Background

- Previous research has established the effectiveness of the MB Group modality in reducing depressive symptoms and preventing the onset of major depression when led by a mental health professional (MHP).²⁻⁴
- There have been studies comparing the delivery of CBT interventions between professionals and lay health workers to **treat** depression and anxiety,⁵ however, there have been no published studies in the United States testing the use of lay health workers to **prevent** depression.
- Lay health workers can provide services at a lower cost than professionals, remove barriers to service delivery (i.e., service setting, stigma), and potentially aid in reducing mental health service disparities in underserved populations.^{5,6}



MB Group Comparative Effectiveness Trial: Lay Home Visitors vs. Mental Health Professionals

- 3-year project funded by the Patient-Centered Outcomes Research Institute (PCORI) (Award #: AD-1507-31473)⁷
- Cluster randomized trial conducted with 37 home visiting programs across 7 states (IL, IA, MI, MO, MN, OH, WV)
 - Three study arms: Usual home visiting, MB delivered by lay home visitors (LHV), MB delivered by MHPs



Study Aims

1. To compare the effectiveness of MB Group when led by a LHV to usual home visiting services (“superiority” aim).
2. To compare the effectiveness of MB Group when led by a LHV to MB Group delivered by a MHP (“non-inferiority” aim).
- 3. To evaluate whether effectiveness of the two versions of MB varies according to patient characteristics.**
4. To examine the feasibility and acceptability of MB Group delivered by LHV and MHP.



Methods

- Primary Outcome: Depressive Symptoms (as measured by Quick Inventory of Depressive Symptoms at 4 time points)
- Pre-specified covariates:
 - Participant race/ethnicity
 - Whether participant is a first-time mother
 - Currently experiencing a major depressive episode
 - Primary language of intervention receipt (for MHP and LHV arms) or primary language in which the participant completed assessments (for control arm)
 - Participant education
 - Participant mental health service use at baseline



Methods

- Descriptive statistics
 - mean \pm standard deviation/median[interquartile range] or N(%)
- Linear mixed model
 - Fixed effect: arm and baseline characteristics listed above
 - Random site effect to account for the correlation within site (to provide more precise estimates on fixed effects)
- Tukey-adjusted p-value for pairwise comparisons



Participant Demographics

	Overall	Control	MHP	LHV
Overall N (%)	824 (100)	149 (18.08)	293 (35.56)	382 (46.36)
Age: Mean (SD)	26.30 (5.83)	26.10 (5.41)	26.01 (5.97)	26.59 (5.87)
Racial/Ethnic Minority: N (%)	579 (70.27)	54 (36.24)	217 (74.06)	308 (80.63)
First-time Mother: N (%)	298 (36.17)	55 (36.91)	112 (38.23)	131 (34.29)
Meets Criteria for MDE: N (%)	29 (3.52)	4 (2.68)	6 (2.05)	19 (4.97)
Spanish Intervention Receipt: N (%)	110 (13.35)	16 (10.74)	58 (19.80)	36 (9.42)
Education Level (At least some college): N (%)	331 (40.17)	71 (47.65)	110 (37.54)	150 (39.27)
Mental Health Service Utilization at Baseline (medication and/or therapy): N (%)	136 (16.50)	22 (14.77)	39 (13.31)	75 (19.63)

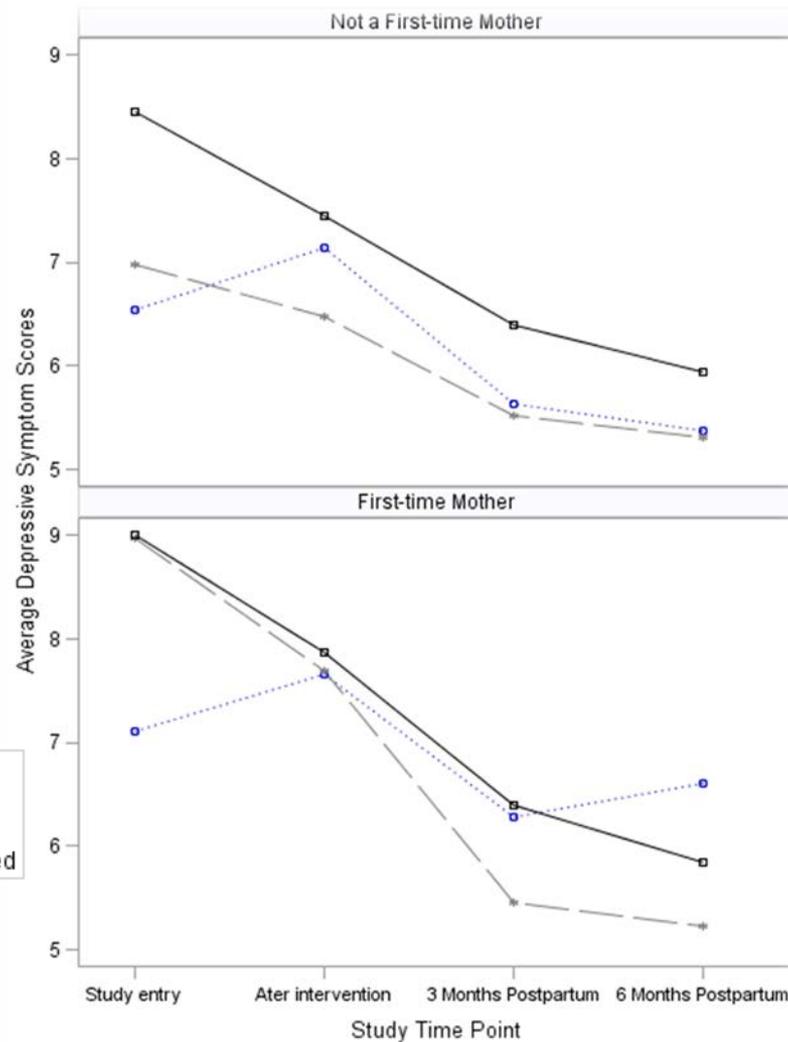


Results

- We found two significant three-way interactions between time, arm, and participant demographic:
 - A significant decrease in QIDs scores over time for first-time mothers in both study arms ($p < 0.001$)
 - A significant decrease in QIDS scores over time for racial minority participants in the LHV-led study arm ($p < 0.001$)



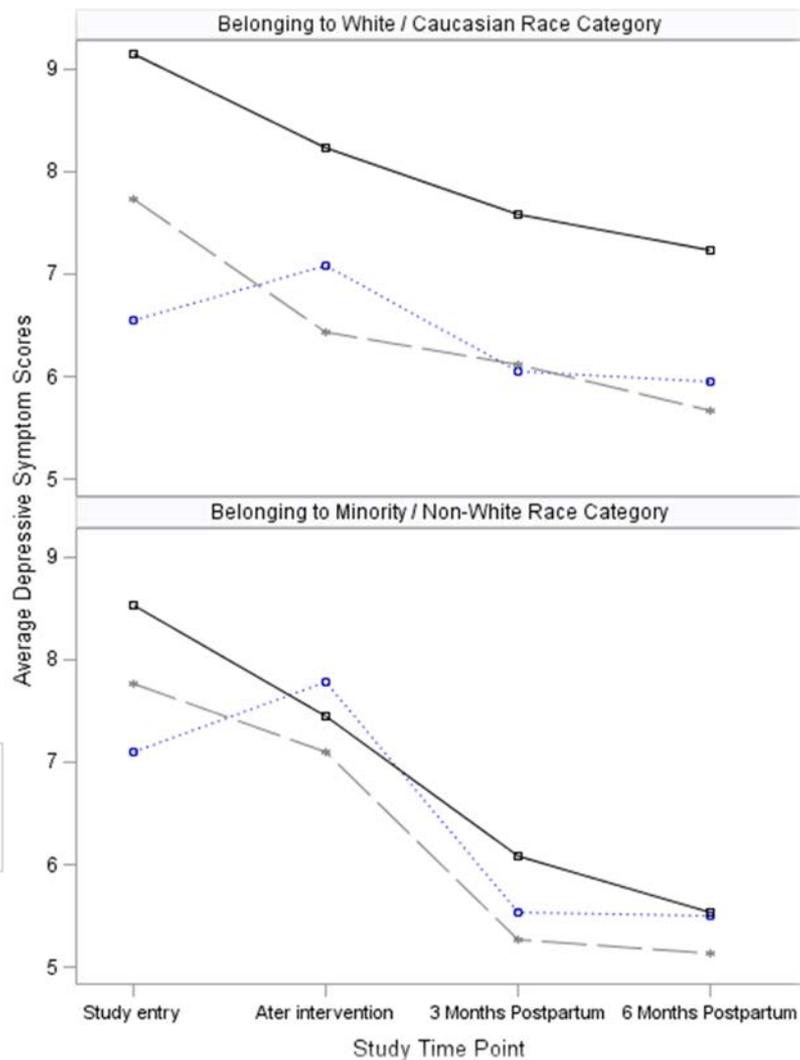
Results Cont.



- Study Group
- --- Usual Care
 - * --- Mental Health Professional-Led
 - --- Home Visiting Paraprofessional-Led



Results Cont.



Study Group
 -○- Usual Care
 -*- Mental Health Professional-Led
 -□- Home Visiting Paraprofessional-Led



Conclusions

- Evidence that MB Group may be more effective with first-time mothers and women from racial minority groups (especially when delivered by a LHV).
- Supports a precision home visiting approach that suggests home visiting programs consider prioritizing delivery of interventions to certain clients who may reap greater benefits.



Future Directions

- Are there modifiable variables and/or lifestyle variables that moderate intervention effects?
 - Examples of modifiable variables: level of social support, ability to regulate one's mood, facilitator/participant race concordance
 - Examples of lifestyle variables: physical activity, diet, sleep
- Are there active ingredients of the MB intervention that moderate intervention effects?
 - Example: Do participants who complete more personal projects between intervention sessions demonstrate better outcomes?



Future Directions Cont.

- Effects of a Prenatal Depression Preventive Intervention on Parenting and Young Children's Self-Regulation and Functioning (EPIC)
 - 5-year NICHD-funded study looking at long-term outcomes of MB Group on parenting and early child development
 - Moderators to be examined in EPIC include sociodemographic variables and father/paternal variables
- A Pilot Study of Sequential Multiple Assignment Randomized Trial Aimed at Reducing Depressive Symptoms among Home Visiting Clients
 - HARC pilot study
 - Uses an “adaptive” trial design to “re-randomize” women not initially responding to MB to receive more intensive intervention content



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